

Victor Lee & Associates

MOTION PICTURE AND TV

OPERATIONS MANUAL

This Operations Manual covers the following aircraft:
SHOTOVER U1 Series I & II



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
This document is a combined Safety and Operations Manual for small enterprises that cover all of the appropriate aspects of Victor Lee & Associates required to satisfy the requirements of National Aviation Authorities for Aerial Work.

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Document Author: Yashica Lee

Accountable Manager: Victor Lee


Amendment Record

Issue Number	Amendment Date	Amendments Incorporated	Signed Off By
2.0	05 February 2017	Added SHOTOVER U1	
3.0	10 May 2021	Added U1 Series II Propulsion	

Commitment of Accountable Manager

This Operations Manual describes the organisation, aircraft systems, personnel, flight operations and procedures by which Victor Lee & Associates carries out its Small Unmanned Aircraft operations.

It is accepted that the contents of this document do not override the necessity of reviewing and complying appropriately with any new or amended regulation published from time to time by the relevant National Aviation Authorities addressed by this document.

Signed.....

Date: May 10, 2021

Accountable Manager: Victor Lee

Victor Lee & Associates

For and on behalf of Victor Lee & Associates, a company registered in the State of North Carolina.

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PART A – SAFETY AND ORGANIZATIONAL LAYOUT

1. Purpose

The purpose of this document is to detail the items to be covered for the safe operation of SHOTOVER U1 SERIES I & II by Victor Lee & Associates personnel.

2. Scope

This operations manual applies to all Victor Lee & Associates personnel involved in the safe operation of the SHOTOVER U1 SERIES detailed in the Aircraft Technical Specifications section.

2.1. Safety Policy and National Perspective

Victor Lee & Associates adopts best industry practice to ensure that all of its flight operations, using small-unmanned aircraft systems (SUAS) as previously detailed, are carried out as safely as possible.

Company Policy: It is the policy of this company to ensure a safe, healthy workplace for all its employees. Injury and illness losses from incidents are costly and preventable. This company will employ an effective incidents and illness prevention program that involves all its employees in an effort to eliminate workplace hazards.

Management: Management is accountable for preventing workplace incidents, injuries and illnesses. Top-level safety support will be provided. Management will consider all employee suggestions for achieving a safer, healthier workplace. Management also will keep informed about workplace safety and health hazards, and regularly review the company safety and health program.

Supervision: Supervisors are responsible for overseeing and training staff, ensuring safe work practices. Supervisors must enforce company safety rules and work to eliminate hazardous conditions. Supervisors shall lead safety efforts by example.

Safety Committee: The safety committee includes employer and employee representatives responsible for recommending safety and health improvements in the workplace. The committee is also responsible for identifying hazards and unsafe work practices, removing obstacles to incident prevention and helping the company evaluate the accident and illness prevention program.

Employees: All employees are expected and encouraged to participate in safety and health program activities including the following: reporting hazards, unsafe work practices and incidents immediately to their supervisors or a safety committee representative; wearing required personal protective equipment; and participating in and supporting safety with regard to Small Unmanned Aircraft Systems.

Victor Lee & Associates adopts best industry practices to ensure that all its flight operations, using Small Unmanned Aircraft Systems, are carried out as safely as possible. Victor Lee & Associates addresses operations worldwide.

2.2. Safety Goals

It is the goal of Victor Lee & Associates to operate aircraft without harm, injury or damage to any persons or property. The Victor Lee & Associates Pilot-In-Command will comply with all of the safety requirements and limitations of the Special Authority for Certain Unmanned Systems (49 U.S.C. 44807) for Aerial Work issued by the FAA to Victor Lee & Associates.

2.3. Safety Assurance

Victor Lee & Associates is committed to maintaining the highest standards of flight safety and aims to minimise harm to any persons or property by undertaking thorough risk assessment, site surveys, crew briefings and ensuring aircraft are in operational condition through regular inspection and maintenance regimes. By these processes Victor Lee & Associates assures safety at all times while carrying out flight operations.

2.4. Organizational and Safety Training

All Victor Lee & Associates crewmembers will undertake an organizational training course and must follow specific procedures set out in this Operations Manual. The training course will include a brief technical overview of the aircraft currently in service, limitations to be considered for operating, organizational procedures and emergency procedures. Any Victor Lee & Associates Pilot-In-Command will hold the relevant, current qualification as stated in the qualification requirements section in order to operate the specific aircraft. Crew performance will be monitored, assessed and refresher training may be given if required. All incidents will be recorded, analysed and any findings will be fed back to the crew as training to form a basis of Continual Professional Development.

3. Definitions and Abbreviations

Below is a list of abbreviations used in this Operations Manual;

Reference	Title
ACC	Accelerometer
ATC	Air Traffic Control
COG	Center of Gravity
ESC	Electronic Speed Controller

FC	Flight Control Board
GEO	Geographical
GPS	Global Position Satellite Board
GPX	GPS eXchange Format
GYRO	Gyrometer
HoTT	Hopping Telemetry Transmission
LCD	Liquid Crystal Display
LIPO	Lithium Polymer Battery
MAH	Milliamp Hours
ML	Medium Lift
MOR	Mandatory Occurrence Reporting
MTOM	Maximum Take-Off Mass
NAVI	Navigation Board
OAT	Outside Air Temperature
OHM	System of Units for Electrical Resistance
OM	Operations Manual
PIC	Pilot in Command
PID	Proportional Integral Derivative Controller
PPL	Private Pilot License
RPAS	Remotely Piloted Aircraft System
UAS	Unmanned Aircraft Systems
VLOS	Visual Line of Sight

4. Document Control and Amendment Process

All amendments to this Operations Manual are to be made by Victor Lee and must be recorded in the Amendment Record Page found at the front of this document. Each amendment is identified with an Amendment Number, Amendment Date, Amendments Incorporated and Incorporated by information header. The FAA will be informed of all major updates such as new aircraft or pilots. All Victor Lee & Associates employees will be informed of any changes to this Operations Manual and they must maintain a current up-to-date version either in electronic or paper format. All amendments will be signed off by the Accountable Manager Victor Lee.

5. Referenced Documents

Reference	Title	Issue Number and Date of Issue
SHOTOVER U1 Aircraft Flight Manual	REV. 2.2	MAY 2021

6. Organisation

Organisation Name: Victor Lee & Associates

Organisation Type: S Corporation

Victor Lee & Associates is a full service marketing production and UAV training company opened in 2008 in Charlotte, NC.

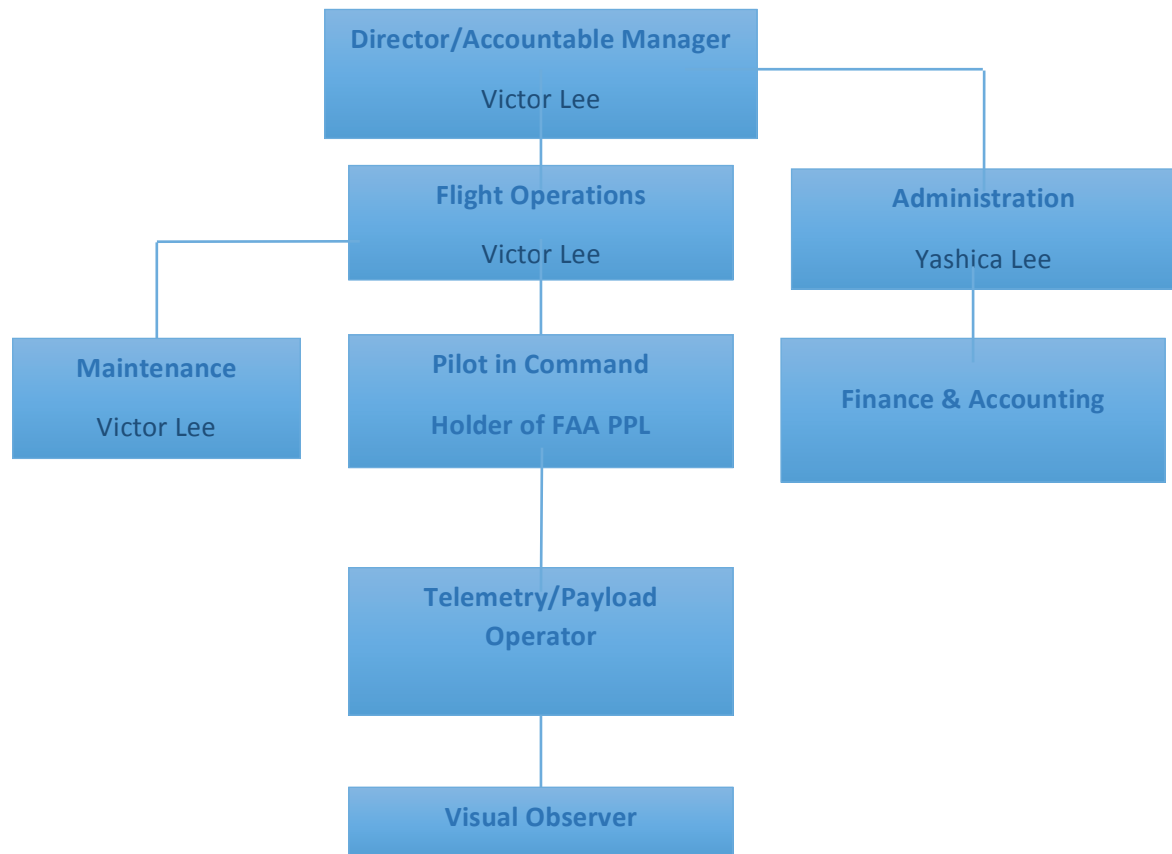
Insurer: SKYWATCH

Insurance Policy Number: 20210416

Insured amount: 1,000,000 USD

Insurance Expiry Date: MAY 15, 2022

6.1. Nominated Personnel



Pilot-In-Command: Holder of FAA PPL

Qualification: FAA - PPL and Remote Pilot Certificate, UK - CAA - BNUC-S

Telephone Number: 704-426-7835

Email Address: victor@vlassociates.com

Payload Operator trained on a freelance basis

Qualification: Cinema and DSLR Cameras

Visual Observer: Victor Lee & Associates trained on a freelance basis or client that is fully briefed on the role

Qualification: Victor Lee & Associates in-house training and SHOTOVER manufacturing training

6.2. Responsibilities

Pilot-In-Command;

- The Pilot-in-Command on the day is responsible for supervising the operation of the UAS.
- Ensure all crewmembers are aware of their responsibilities by giving a Crew Briefing.
- Ensuring all required paperwork is completed such as pilot & aircraft hours, battery log etc.

- Ensuring the On-Site Assessment is completed correctly.
- Ensuring the aircraft is only operated within the stated limitations for that particular aircraft.
- Ensuring all commercial work is completed within the limitations stated on the permission for aerial work document.
- Ensuring that the aircraft used is airworthy by completing the pre-flight checklist.
- Ensuring that the welfare of themselves or others is not compromised by any planned operations.
- Ensuring that they are of sound body and mind to operate the aircraft.

Payload Operator;

- Ensuring the camera is operational. (Fully charged, empty memory card fitted, lens clean)
- Ensuring the camera is securely mounted. (The Pilot-In-Command must confirm this also)
- Ensuring the camera is switched on and operating correctly before activation of the aircraft.
- Ensuring the camera is switched off and images saved after the aircraft is made safe.
- Ensuring operational safety. It is every crewmember's responsibility to alert the observer to any changing situation, which may cause threat to any aircraft, property or person present.
- Ensure the camera is rotated to the stored position for take-off and landing procedures.
- Communicate with client as required to establish required task.

Observer;

- Act as a link between the Pilot-In-Command and crewmembers.
- Ensure the Pilot-In-Command is aware of all relevant developing situations.
- Maintain constant visual lookout for public and aircraft encroachments.
- Ensure the position of the UAS is known at all times.
- Keep the Pilot-In-Command updated with battery status.
- Be prepared at all times to activate the fail-safe function on the aircraft.

PART B – AIRCRAFT AND OPERATIONAL CONTROL

7. Aircraft Technical Specifications

The table below shows specifications for aircraft: Freely Systems ALTA

Item	Aircraft Details	Aircraft Details	Aircraft Details	Aircraft Details
Operators Name	Victor Lee & Associates	Victor Lee & Associates		
Registered Keeper	Victor Lee & Associates	Victor Lee & Associates		
Manufacturer Name	SHOTOVER	SHOTOVER		
Distributor Name	Victor Lee & Associates	Victor Lee & Associates		
Airframe Make	U1 Series II	U1 Series I		
Airframe Model	Octocopter	Octocopter		
Serial Number	028	028		
Aircraft N Number	N234VL	N234VL		
Registration Number	N234VL	N234VL		
Airframe Type	Multi-rotor	Multi-rotor		
Span / Diameter (metres)	1683 mm	1385 mm		
Un-laden Weight (lb)	42.8 lbs.	24.25 lbs.		
Maximum Take-Off Mass (lb)	132.2 lbs.	89.0 lb		
Propulsion Type	Electric	Electric		
Number of Motors / Engines	8	8		
Motor / Engine Size	U12 II	KDE 7215XF		
Motor KV	120	135		
Flight Battery Type	Lipo	Lipo		
Flight Battery Capacity	6 S22,000mah x 4	6 S 16,000mah x 4		
Propeller Size	30 x 10.5	27.5 x 8.9		
Flight Control System	CUBE	CUBE		
Flight Control Serial Number	TBD	TBD		
Flight Control Power Supply	Main Power Lipo	Main Power Lipo		
Software / Firmware Version	3.5	3.5		
GPS Unit	PIXHAWK	PIXHAWK		
GPS Unit Serial Number	TBD	TBD		
Inertial Measuring Unit	CUBE	CUBE		
IMU Serial Number	TBD	TBD		
Transmitter Make and Model	Futaba 18SZ	Futaba 18SZ		
Transmitter Serial Number	160900083	160900083		
Receiver Make and	Futaba R7008SB	Futaba R7008SB		

Model				
Receiver Serial Number	N/A	N/A		
Aircraft Control Frequency and Power	2.4 ghz	2.4 ghz		
Ground Station Type	Passive	Passive		
Ground Station Make and Model	HP Laptop Elitebook 820	HP Laptop Elitebook 820		
Ground Station Serial Number	TBD	TBD		
Ground Station Software	Ardupilot	Ardupilot		
Firmware / Software Version	3.5	3.5		
Ground Station Link Make and Model	N/A	TBD		
Ground Station Control Frequency	900 Mhz	900 Mhz		
Telemetry Link Make and Model	Via transmitter	Via transmitter		
Telemetry Link Frequency and Power	2.4 Ghz	2.4 Ghz		
Payload Link Make and Model	CONNEX HD	CONNEX HD		
Payload Link Frequency and Power	5.8 Ghz	5.8 Ghz		

7.1. Operating Limitations and Conditions

Limitation	U1 SERIES II	U1 SERIES I		
Operational Ceiling	10,000 ft. Above Mean Sea Level (AMSL)	10,000 ft. Above Mean Sea Level (AMSL)		
Operational Endurance	13 Minutes	13 Minutes		
Maximum Permissible Airspeed	35 Knots Airspeed	35 Knots Airspeed		
Maximum Outside Air Temperature	40°C	40°C		
Minimum Outside Air Temperature	-20°C	-20°C		
Maximum Permissible Wind Speed	20Kts @ 0ft Above Ground Level (AGL)	20Kts @ 0ft Above Ground Level (AGL)		
Maximum Permissible Wind Gusts	10Kts @ 0ft Above Ground Level (AGL)	10Kts @ 0ft Above Ground Level (AGL)		

Broadcast Frequency Signal Strength	TBD	TBD		
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The table below shows aircraft operational limitations;

7.2. Types of Operation

The table below shows all types of Operations undertaken by Victor Lee & Associates and the aircraft used for each operation:-

Operation Type	Aircraft Utilised	Payload Fitted
VLOS Photography, Cinematography & Closed Set Filming	Shotover U1 I & II	Cinema Cameras

8. Maintenance Principles and Regime

Only Victor Lee & Associates staff or appointed service engineers can carry out maintenance to SHOTOVER U1 aircraft. In all cases the Maintenance Logbook must be filled in to reflect any work completed and a flight test which tests all functions must be carried out by a registered, qualified Victor Lee & Associates pilot.

ROUTINE MAINTENANCE

The Pre-Flight and Post-Flight checklists as shown in Appendix D must be carried out by a Victor Lee & Associates pilot every time a Victor Lee & Associates aircraft is operated.

Either every six months or every fifty hours of flight time, whichever comes first, the following inspection should be carried out by an Victor Lee & Associates qualified pilot. The inspection should be recorded in the Aircraft Maintenance Logbook along with any findings. Any issues identified must be remedied and the aircraft must undergo a full flight test before the aircraft is returned to Operational Status:-

- Inspect the airframe for any damage, unusual marks and tightness of fixings.
- Inspect the motor mountings for correct tension.
- Inspect propellers for condition, unusual marks, chips, cracks and tightness of fixings.
- Inspect electrical wiring for condition, unusual marks or discolouration.
- Inspect electrical terminal fittings and plugs for secure attachment and general condition.
- Inspect attachment of all fittings such as flight controller, GPS antennae etc. for secure attachment.
- Inspect payload attachment points for condition and security of payload.
- Inspect condition and function of all ancillary equipment such as transmitter, ground station etc.
- Test all system battery packs for charge status and general condition.

If any issues or problems are identified, then the aircraft must not be allowed to fly until the issue has been remedied. If Minor problems (damaged propeller, faulty battery pack etc.) are identified and remedied and the Pilot-In-Charge believes the aircraft is suitable to return to Operational Status then the work completed should be noted in the Aircraft Maintenance Logbook. If Major issues are identified (unserviceable motor,

damaged airframe etc.) then the aircraft must undergo a full flight test regime as shown below once the identified fault has been remedied: -

FULL FLIGHT TEST

The system must have all functions thoroughly tested with a minimum of fifteen minutes flight time by a qualified Victor Lee & Associates pilot recording any abnormalities in the Aircraft Operating Hours Logbook. If the Pilot-In-Command deems the aircraft safe then the Accountable Manager, Victor Lee should sign the Aircraft Operating Hours Logbook as fit for Operational use.

Systems with identified issues to firmware or software should be grounded until the problem can be rectified.

8.1. Software and Firmware Update Policy

All new software and firmware will be thoroughly assessed before installation. Particular attention should be focused on relevance to operations, reason for release and any known issues. Multi-rotor and UAS forums should be examined for any reported issues with the release and only when the validity of the upgrade has been confirmed should the upgrade be considered.

In all circumstances the upgrade should only be performed by qualified Victor Lee & Associates personnel or appointed service providers. All upgrade information, such as version numbers and new functions, must be recorded in the Aircraft Maintenance Logbook. All Victor Lee & Associates pilots must be made aware that the firmware or software has been upgraded before any flight is undertaken.

Any upgraded system must then have all functions thoroughly tested with a minimum of fifteen minutes flight time by a qualified Victor Lee & Associates pilot recording any abnormalities in the Aircraft Operating Hours Logbook. If the Pilot-In-Command deems the aircraft safe then the Accountable Manager, Victor Lee should sign the Aircraft Operating Hours Logbook as fit for operational use. If any doubts exist as to the new upgrade then the aircraft should be downgraded to the previous firmware and the flight test procedure repeated.

Systems with identified issues to firmware or software should be grounded until the problem can be rectified.

9. Supervision of Remotely Piloted Aircraft System (RPAS)

When in-flight the Victor Lee & Associates Pilot-in-Command on the day is responsible for supervising the operation of the Victor Lee & Associates UAS.

10. Incident Investigation and Mandatory Occurrence Reporting

Any Incidents or Occurrences will be dealt with by Victor Lee & Associates as follows:-

10.1. Incident Handling

In the event of any Incident, the severity must be assessed. The following lists should help to identify Minor and Major Incidents:-

MINOR INCIDENTS

- Any unusual or unexpected flight behaviour from the aircraft which does not result in damage or loss
- Any failure of any aircraft system which does not result in damage or loss

MAJOR INCIDENTS

- Any unusual or unexpected flight behaviour from the aircraft which results in damage or loss
- Any significant damage to the aircraft caused by an aircraft system failure
- Any significant danger or damage to persons, possessions or property during Flight Operations
- Any public encroachments or aircraft incursions which required preventative measures to avoid

10.2. Incident Logging

All MINOR incidents should be logged in the Aircraft Operating Hours Logbook. Upon noting a minor incident the logbook should be checked for similar occurrences. If a minor incident occurs three times then an investigation should be initiated to identify the cause and consider implementing steps to reduce the likelihood of this incident occurring again.

All MAJOR incidents require an investigation as outlined in the Investigation Procedure section and the Incident Logbook should be completed.

10.3. Investigation Procedure

Any investigations undertaken by Victor Lee & Associates will follow the procedure shown below.

INTRODUCTION

The introduction contains the context for the Incident and confirms the major facts as to the companies and people involved, why they were present and the reason for the flights being carried out.

DESCRIPTION OF EVENTS

This is a factual account of the events leading up to and immediately after the incident as well as the incident itself. Its aim is to provide an agreed basis upon which the analysis is carried out.

Importantly any assumptions should be clearly stated and all data provided should have its authenticity and derivation stated. If there are doubts, then these should also be clearly articulated so that future analysis can take this into account.

ANALYSIS

The analysis of events sets out to find explanations for what is described in the description of events. Wherever possible the analysis draws upon known concepts, models and physical understanding to ensure that the events as described have a logical explanation.

The analysis should set the scene for any conclusions and provide traceability from the facts to the conclusions in a logical and auditable manner.

CONCLUSIONS

The conclusions are derived from the analysis, which themselves are based upon the facts in the description of events or the facts as they pertain to concepts, models and physical understanding exposed within the analysis. A strong conclusion is one where this traceability is good and can stand up to scrutiny.

RECOMMENDATIONS

The aim of the recommendations is to provide the organisations or personnel identified for the report with those items and actions that can lead to a safer operation and which address the shortcomings highlighted through the investigation process.

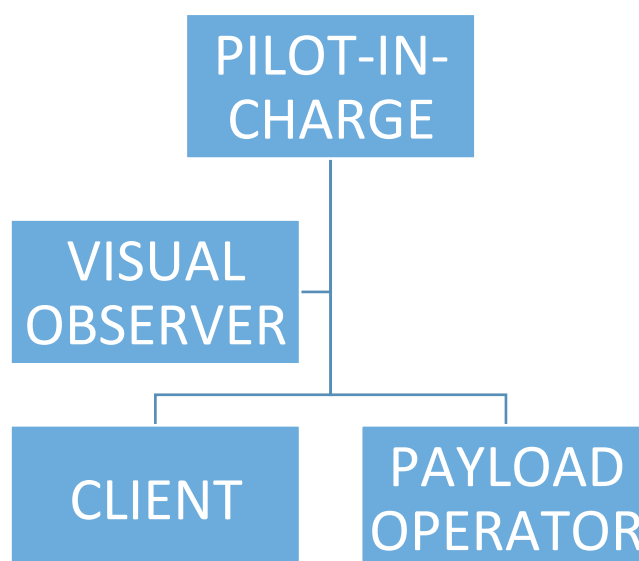
10.4. Mandatory Occurrence Reporting

Any incident, accident, or flight operation that transgresses the lateral or vertical boundaries of the operational area as defined by the applicable COA must be reported to the FAA's UAS Integration Office (AFS-80) within 24 hours. Accidents must be reported to the National Transportation Safety Board (NTSB) per instructions contained on the NTSB Web site: www.nts.gov. Accidents within the USA must be reported to the National Transportation Safety Board (NTSB) per instructions contained on the NTSB Web site: www.nts.gov.

11. Operation of Multiple Aircraft

Not applicable at present time.

12. Flight Team Composition



12.1. Qualification Requirements and Currency

All personnel operating as Pilot-In-Command for Victor Lee & Associates must be at least eighteen years of age and have undertaken the following :-

- SHOTOVER Manufacturers or Distributors Operational Training Course
- Victor Lee & Associates Operational Training Course

Victor Lee & Associates pilots are required to maintain operational currency standards by ensuring that they operate an aircraft for at least thirty minutes flight time every calendar month. This may be completed with training flights or in extreme circumstances, such as periods of adverse weather conditions; a flight simulator may be permitted. All Victor Lee & Associates pilots are required to submit an up-to-date 'Pilot Hours' logbook once a year as requested.

12.2. Crew Health

It is the responsibility of the individual to determine if they are in a physically and mentally fit condition to operate as part of the Flight Crew for Victor Lee & Associates. All Flight Crew members must be capable of

clearly reading a vehicle license plate number from twenty feet distance. Victor Lee & Associates Flight Crew members shall not operate if they have consumed any amount of alcohol 12 hours prior to flight or have more than .04% blood alcohol concentration level in their body. Victor Lee & Associates also has a strict no drugs policy. All Flight Crew members taking prescription drugs should seek professional guidance and also advise the Pilot-In-Command. Any Flight Crew members should advise the Pilot-In-Command or Observer if an aircraft is in flight immediately if they feel unable to continue with their assigned responsibilities. All Victor Lee & Associates Pilots are limited to a maximum of one hundred and twenty minutes of flight time in any twenty-four hour period.

13. Logs and Records

Victor Lee & Associates will maintain up-to-date information and operational logbooks for:-

- Aircraft and Pilot Operating Hours Logbook
- Battery Charge Logbook
- Aircraft Maintenance Logbook
- Incident / Accident Logbook

Please see Appendix E for examples of these logbooks.

PART C – FLIGHT PLANNING AND PREPARATION (Pre-Site)

14. Determination of Intended Task and Feasibility

Initial customer enquiries should be captured using the Customer Enquiry Form found in Appendix C. Details should be captured on the form from the customer such as: -

- Contact Details
- Work Required
- Date and Time Constraints
- Location of Work (Latitude and Longitude if possible)
- Landowner Details
- Other Nearby Air Users (if known)
- Price Expectations
- Any Other Relevant Information

A Pre-Site Survey Form, Risk Assessment Form and an On-Site Survey Form should also be stapled to this Initial Contact Form to produce a 'Job File' which will be taken On-Site while the Flight Operations are undertaken and will then be retained for at least three years for future reference if required.

15. Operating Site Location and Assessment

The Pre-Site Assessment Survey Form, which can be found in Appendix C, should be completed. Any experienced Victor Lee & Associates personnel can complete the form using the following information sources:-

- Client Information
- Current Relevant Aeronautical Charts
[Sky Vector](#) - Online Aeronautical Charts
- [Google Earth](#)
- [Google Maps](#)

16. Risk Management

Victor Lee & Associates staff will use the Risk Assessment form found in Appendix C to record Hazards which affect normal flight operations. Potential mitigating factors should also be recorded. Below is a Risk Matrix which should help to determine if a proposed Flight Operation has acceptable risks:

Severity of Potential Injury or Fatality						
1 to 5 = Low Risk		Insignificant No Injury 1	Non Reportable Injury 2	Reportable Injury 3	Major Injury Single Fatality 4	Multiple Fatalities 5
6 to 10 = Moderate Risk						
12 to 15 = High Risk						
16 to 25 = Unacceptable						
Probability of Hazard	Almost Certain 5	5	10	15	20	25
	Will Probably Occur 4	4	8	12	16	20
	Will Possibly Occur 3	3	6	9	12	15
	Remote Possibility 2	2	4	6	8	10
	Extremely Unlikely 1	1	2	3	4	5

- Risk factors between 1 and 10 are acceptable and the operation can be cleared.
- Risk factors between 12 and 15 are unacceptable but mitigating factors may reduce the risk.
- Risk factors between 16 and 25 are unacceptable and the operation can't be cleared.

17. Communications

Contact telephone numbers for the following must be recorded on the On-Site Survey Form which can be found in Appendix C before embarkation to the site. This task is best carried out at the planning stage while the Pre-Site Survey form is being completed.

- Pilot Contact Number
- Visual Observer Contact Number
- Client Contact Number
- Local Police Station Contact Number
- Local Hospital Contact Number
- Local Air Traffic Control Contact Number

Consideration must be given to the Operating Location in relation to crew communication. If the operating location is likely to be busy or noisy then two-way radios should be issued so that crewmembers can remain in contact. The Pilot-In-Command will not be given a radio, as all communication will be relayed through the Visual Observer so as not to disturb concentration. The Pre-Site Assessment should have already identified any possible forms of frequency interference, if there is a possible risk then a frequency spectrum analyser should be used to assess potential interference. All Victor Lee & Associates crewmembers must carry a fully charged mobile phone and ensure they have all of the relevant contact numbers in case of emergencies.

18. Pre-Notification

Pre-Notification is required if a planned flight operation is to take place within five nautical miles of an airport. The Pilot-In-Charge should contact the Local Control Tower in person at least three days and twenty-four hours before the planned flight to advise the controller of the planned flight operation. Contact details for the tower can be found on the relevant On-Site Survey Form as part of the Job File.

If the planned flight operation is to take place in areas where there is likely to be members of the public, it is recommended that the local police are informed. The contact number can be found on the On-Site Assessment form.

All relevant Victor Lee & Associates crewmembers must be advised of a planned flight operation at least twenty-four hours in advance by means of a 'Call Sheet'.

19. Site Permissions

Victor Lee & Associates will obtain permission from all landowners over which flight operations are to be conducted. The permission will either be in the form of a printed email attached to the Pre-Site Assessment Form or as a written signature obtained from the client captured on the On-Site Assessment Form. A verbal permission is acceptable if written permission is not practical. No flight operations will commence without permission from the relevant landowners.

20. Weather Forecasts

During the week leading up to any flight operation Victor Lee & Associates will obtain long-range weather forecasts. Twenty-four hours before the proposed flight operations a further weather forecast will be obtained. The information from this weather forecast will either be printed and stapled to or written in the Pre-Site Survey Form. The Pilot-In-Command will then review the weather forecast, and based on the aircraft limitations, make a decision about the validity of the planned flight operations. The client must be informed at least twenty-four hours in advance if flight operations are to be postponed. Weather forecasts will be obtained using the following resources: -

- weather.com
- Flight Service Stations (FSS)

21. Preparation and Serviceability of Equipment

Victor Lee & Associates will ensure that all aircraft are kept in a serviceable condition through routine maintenance and the following checklists, which can be found in Appendix D:

- Embarkation Checklist
- Arrival Checklist

- Pre-Flight Checklist
- Post-Flight Checklist

The Victor Lee & Associates Pilot-In-Command on the day is responsible for ensuring that all checklists are completed correctly. The Victor Lee & Associates pilot-in-command must check the Aircraft Maintenance Logbook for any issues and ensure that all required flight batteries are fully charged and ready to use before arriving at the operations site location.

PART D – OPERATING PROCEDURES (On-Site)

22. On-Site Assessment Survey

Upon arrival at the operating site location, the Victor Lee & Associates Pilot-In-Charge will carry out an On-Site Assessment Survey to familiarise themselves with the local geography of the site. This is completed by physically walking around the site to assess any hazards marked on the Pre-Site Assessment Form. It is advisable to carry out this procedure with the Visual Observer so that all issues can be discussed as they are found. All findings should be recorded using the On-Site Assessment Form found in Appendix C. The mobile application GPS Test will be used to ascertain satellite coverage, a minimum of seven satellites over a good spread will be required for all Victor Lee & Associates flight operations.

If the Pilot-In-Command feels confident that the proposed flight operations can be safely performed, then the operation can progress to the next stage.

23. Selection of Operating Areas and Alternative

The Victor Lee & Associates Pilot-In-Command should select an Operating or Take-Off area based on the following criteria. An alternative or emergency landing zone should also be discussed with the observer and selected; this area should be available to land in if the first location becomes inaccessible:

- Full visual coverage of the operating site.
- Position in relation to the sun to avoid visual impairment.
- Physical obstacles such as overhanging trees, rocks, buildings, power lines etc.
- Terrain topography, avoid steep slopes or uneven ground.
- Consider effects such as wind shear from nearby trees, buildings etc.
- All buildings and persons not under the control of the Pilot-In-Command must remain 500 feet away from the aircraft for Take-Off and in flight.

24. Weather Checks

The Victor Lee & Associates Pilot-In-Command for the operation must assess the local weather conditions. Wind speed in knots and outside air temperature in degrees Fahrenheit will be obtained by using a hand held anemometer. The wind direction can be obtained using the compass feature of the GPS Test mobile application. The NOAA Hi-Def Radar Pro application should also be consulted for operations in the USA, this gives information about the path rain has taken and predictions can be made from this. The on-site weather information should be recorded on the on-site survey form.

- NOAA Hi-Def Radar Pro - <https://itunes.apple.com/us/app/noaa-hi-def-radar-pro-storm/id458225159?mt=8>

25. Crew Briefing

The Victor Lee & Associates Pilot-In-Command will give the Crew Briefing. This briefing must be carried out before any flight operations take place. If possible a Pre-Operation crew briefing should be given on the day before a flight operation is to take place so that all crew members can be prepared on the day. If this is not possible an email should be sent to each flight crew team member at least twenty -four hours before the planned flight operation advising on location and arrival time.

All Victor Lee & Associates Flight Crew Team Members must be present at the crew briefing on-site, if any members miss the briefing they must complete a one-to-one briefing with the Pilot-In-Command. The Pilot-In-Command must cover the criteria listed below. If any crewmembers feel unable to complete their assigned tasks or have reservations about the flight operation, then they must make their concerns known at this briefing:

- Check that all relevant and required crewmembers are present.
- Issue identification badges and fluorescent vests if required
- Advise crew of Take-Off, Landing, Emergency and Operating areas.
- Confirm flight plan with the crew.
- Advise the crew on timescales. (expected flight times, durations and quantities)
- Ensure all crewmembers are aware of their individual responsibilities.
- Ensure crew are familiar with the Emergency Procedures and have emergency contact numbers.
- Ensure Visual Observer is familiar with the failsafe function.
- Check that the crew are happy to proceed.
- Issue Two-Way radio communication devices if required and state channel to use.

26. Crew Clothing

All Victor Lee & Associates flight crewmembers should check the weather forecast before the planned flight operation and bring suitable clothing and footwear to the operating site. While on site Victor Lee & Associates identification badges must be worn at all times. During flight operations, each individual member of the flight crew must wear high visibility clothing clearly stating their role i.e. Pilot, Visual Observer, Payload Operator etc.

27. Cordon Procedure

The Pre-Site Assessment should have identified if a cordon is required, but the Victor Lee & Associates Pilot-In-Command will confirm if a cordon is required. If large numbers of the public are expected, then a cordon should be established 500 feet around the planned flight path. This cordon should be set out using cones and safety tape. Signs should be placed every 30 feet advising members of the public that UAS flight operations are in progress. Extra spotters may be required to be positioned at gates or on public footpaths to advise members of the public about the dangers of entering the area. Gates may be closed; access may be

restricted but spotters may not detain any members of the public or prevent them from accessing public rights of way. The spotters are there to advise on the dangers of entering restricted areas and to advise the Visual Observer about public encroachments.

If the location is set in a more rural area then a local cordon around the take-off and landing area may be utilised, this can be as little as four cones set out into a fifteen-foot square.

It is the responsibility of the Spotter to ensure that the Visual Observer is aware of any encroachment from a member of the public. The Visual Observer in turn will advise the Pilot-In-Command of any encroachments. This process will ensure that the Pilot-In-Command remains focused on operating the aircraft.

28. Aircraft Communications

As part of the On-Site assessment survey the Victor Lee & Associates Pilot-In-Command will check the available satellite coverage using the mobile GPS signal application GPS TEST. Seven satellites over a good spread (not all next to each other) are required for the planned flight operations to proceed. Consideration should be given to buildings and structures which could block or distort the GPS signal. It should be noted that if the satellite coverage is not sufficient for the aircraft to attain a 3D fix the fail safe function will not operate. The Pilot-In-Command will also check the 2.4GHz frequency spectrum using the 'I-Phone' plug in 2.4GHz frequency analyser Oscium WiPry Combo device. This is important because the aircraft controlling link is established on the 2.4GHz frequency, as is the telemetry information from the aircraft to the ground station. The audiovisual link should be tested at the earliest convenience and if any interference is witnessed on the 5.8GHz frequency another channel can be selected, there are several channels to choose from and are changed by moving the dip switches on the transmitter module. Care should be taken to ensure that the switch positions on the transmitter and receiver match to ensure a link.

29. Charging and Fitting of Batteries

The Victor Lee & Associates Pilot-In-Charge is responsible for charging and fitting flight battery packs to the aircraft. All battery packs should be charged and checked as part of the embarkation checklist found in Appendix D. All Victor Lee & Associates battery packs will be identified by a unique specific identification number applied to the battery pack. Battery identification codes can be found in the front of the Battery Charge Logbook.

All Victor Lee & Associates battery information will be recorded in the Battery Charge Logbook, an example of which can be found in Appendix E.

The procedure for flight battery charging is:-

- Measure the battery residual charge % and enter the value in the corresponding charge logbook box.
- Connect the battery to the charger charge lead and balance lead.
- Select the appropriate settings on the charger for the battery.
- Place the battery pack into the Lipo-Safe bag and start the charge cycle.

- Stay in the area of the charging battery, never leave unattended.
- When battery is charged log the mAh charge input in the charge logbook.
- Switch off the charger and disconnect the battery pack.
- Fit the “Charged” peg to the battery lead to confirm this battery is ready for use.

Batteries must be charged in “Lipo-Safe” protective bags or cases using the correct specific battery charger in line with the manufacturer’s guidelines. Batteries must never be left unattended whilst charging. A fire extinguisher must be present when charging battery packs. All batteries will be stored in the large storage box marked “Batteries”. Any battery packs showing anomalies will not be used and must be disposed of through the recognised battery disposal area at the appropriate recycle center.

Before any battery is to be used the voltage must be checked using the Hyperion EOS Sentry 3 and the % reading should be logged in the charge logbook in the appropriate box. Any battery under 90% charge will not be fitted. The charged peg must be removed from the battery to identify that this battery is no longer fully charged and requires charging before being refitted.

If a battery pack is not used in any three-month period it must be checked and charged if required.

30. Loading of Equipment

The Victor Lee & Associates Payload Operator is responsible for ensuring that the payload is ready to use. If the payload is a camera the memory card should be empty and the battery should be fully charged.

The Victor Lee & Associates Pilot-In-Command is responsible for ensuring that the payload is securely fitted to the airframe. All payloads require two mechanical fixings such as a retaining bolt and safety lanyard before flight operations can commence. The Pilot-In-Command should ensure that the aircraft balances correctly with the selected payload fitted, adjustments to position should be made to ensure this is the case and under no circumstances should the aircraft fly if the balance is not within limitations. The Pilot-In-Command is responsible for ensuring that the aircraft does not operate in excess of the stated maximum take-off mass.

31. Pre-Flight and Post-Flight Checks

The Victor Lee & Associates Pilot-In-Command on the day must complete the following checklists as required:

The *Embarkation Checklist* must be completed before the equipment is loaded and brought to site, ideally twenty-four hours in advance.

The *Arrival Checklist* must be completed as soon as the Pilot-In-Command reaches the intended flight operation location.

The *Pre-flight Checklist* must be completed immediately prior to any flight operation.

The *Post-flight Checklist* must be completed immediately after landing.

All Checklists can be found in Appendix D. If any fault or problem is found which can't be remedied, then the intended flight operations must be postponed until a solution is found. All findings must be documented in the relevant logbook. Any interrupted checklist procedure must be restarted from the beginning.

32. Flight Procedures

The following procedures are basic guidelines for Victor Lee & Associates flight crew. As far as practically possible these procedures must be complied with. The Victor Lee & Associates pilot-in-command on the day is responsible for supervising the operation while the aircraft is in flight.

32.1. Start-up Procedure

The following procedure is to be completed by the Pilot-In-Command

- Check Flight Battery Pack Level with Battery Checker (*Must be at least 90%*)
- Record Battery Pack identification code and power level details in the Battery Logbook
- Fit the Flight Battery to the aircraft and place the aircraft on the calibration platform facing into wind
- Ensure all switches on the Aircraft Control Transmitter are set correctly
- Switch on the Aircraft Control Transmitter and ensure battery level is over 90%
- Call "*Clear Props*" and connect the flight battery pack (*The propellers may turn momentarily*)
- Let the aircraft run the system diagnostics program
- Calibrate Gyro
- Test camera gimbal operation and move to take-off position (*camera lens parallel with ground level*)
- Switch on Ground Station and load software. (*Once loaded select "connect to system"*)
- Monitor satellite capture on screen until at least 7 satellites are captured and "*3D Fix*" is displayed
- Confirm GPS position fix (*Solid blue light on aircraft GPS receiver*)

32.2. Take-off Procedure

The following procedure is to be completed by the Pilot-In-Command

- Make a 360° visual sweep of the area (*Pay particular attention to airspace and public encroachments*)
- Confirm with the Visual Observer that it is clear to take off
- Check and note the time
- Call "*Taking Off*" and start the motors
- Take a final look above the aircraft and power up to $\frac{3}{4}$ power (*Use a steady progressive movement*)
- Climb to approximately 6 feet and reduce power to hover
- Test yaw and cyclic controls (*Use small gentle movements and ensure aircraft reacts correctly*)
- Engage position and altitude hold to test function (*Aircraft should hold position and altitude*)
- Check battery status and number of satellites being tracked
- Call "*Camera Free*" to advise payload operator that the payload can now be moved
- Confirm with observer that the planned flight operation is still good to go ahead

32.3. In-flight Procedure

The following procedure is to be completed by the pilot-In-command and observer

- Pilot-In-Command to keep aircraft within line-of-sight and 400 feet height AGL
- Pilot-In-Command to maintain primary focus on the aircraft and immediate surroundings
- Pilot-In-Command to monitor basic telemetry from aircraft when safe and appropriate
- Pilot-In-Command to maintain communications with the Visual Observer at all times
- Pilot-In-Command to follow instruction from payload operator if safe to do so
- Visual Observer to monitor telemetry, flight battery voltage, satellites tracked, altitude etc.
- Visual Observer to give pilot-in-command continuous feedback of flight battery voltage
- Visual Observer to maintain visual lookout for public encroachments and airspace incursions

32.4. Landing Procedure

The following procedure is to be completed by the pilot-In-command, visual observer and payload operator

- Pilot-In-Command to advise Visual Observer of intention to land
- Visual Observer to visually check landing area to ensure it is safe to land
- Pilot-In-Command to fly directly to landing site and hover at approximately 6 feet facing into wind
- Payload Operator to ensure payload is stowed for landing and call *"Camera Safe"*
- Pilot-In-Command to take a final look below the aircraft and call *"Landing"*
- Pilot-In-Command to reduce power and land the aircraft (*Be aware of ground effect*)

32.5. Shut-down Procedure

The following procedure is to be completed by the pilot-In-command

- Upon touchdown stop the motors
- Approach the aircraft, disconnect the flight battery pack and call *"Aircraft Safe"*
- Check and note the time
- Switch off the Aircraft Control Transmitter
- Check Flight Battery Pack Level with Battery Checker
- Fill in Pilot / Aircraft Hours and Battery Logbooks

33. Emergency Procedures

Below is a list of Emergency Procedures for various scenarios, which should be adhered to by the Victor Lee & Associates pilot-in-command. Spotters may need to utilise two-way radios to ensure that their calls can be heard by the rest of the crew. Any emergency situation should be recorded in the Aircraft Hours Logbook under the *"notes"* section. Refer to [Section 10](#) for Incident Handling Procedures.

FAIL SAFE PROCEDURE: Upon activation of the 'fail safe' function the aircraft will hold position and altitude for three seconds, the aircraft will then climb to predetermined height. The aircraft will then head directly to the position at which it attained GPS position lock after power up. Once in position the aircraft will hold position, as pre-programmed, before slowly descending to land. Once the aircraft has landed the motors will shutdown.

Emergency Type	Action Required	Responsibility Delegated to
Transmitter Failure Frequency Interference	Call <i>"Fail Safe"</i> so that the crew understand the situation and observe the aircrafts flight path. Upon transmitter failure or frequency interference the aircraft will enter the 'Fail Safe' mode as described above.	Pilot-in-Command
	Upon hearing the call <i>"Fail Safe"</i> ensure that the take-off site is clear of all persons as the aircraft will be returning to its initial 'power up' coordinates.	Visual Observer / Spotters
Loss of Propulsion Motor or Propeller Failure Aircraft Battery Failure	Call <i>"Dead Stick"</i> and assess if the aircraft is controllable, if sufficient control is maintained head directly to either the landing site or alternate landing site whichever is closest. If control is compromised try to execute a controlled descent.	Pilot-in-Command
	Upon hearing the call <i>"Dead Stick"</i> identify the closest safe landing position to the aircraft and advise the Pilot-in-Command.	Visual Observer
	Upon hearing the call <i>"Dead Stick"</i> immediately clear any persons directly underneath or in the path of the aircraft to either the landing site or alternate landing site whichever is closest. Maintain visual contact with the aircraft once the area is clear.	Visual Observer / Spotters
Ground Control Station Failure	Call <i>"Landing"</i> and carry out the standard landing procedure. The aircraft is not in immediate danger but the ground station monitors crucial systems and therefore it is not advisable to fly without telemetry information.	Pilot-in-Command
Loss of GPS Signal	Call <i>"Dead Stick"</i> and switch the aircraft in manual or 'attitude' control, head directly to either the landing site or alternate landing site whichever is closest. If control is compromised try to execute a controlled descent.	Pilot-in-Command
	Upon hearing the call <i>"Dead Stick"</i> identify the closest safe landing position to the aircraft and advise the Pilot-in-Command.	Visual Observer
	Upon hearing the call <i>"Dead Stick"</i> immediately clear any persons directly underneath or in the path of the aircraft to either the landing site or alternate landing site whichever is closest. Maintain visual contact with the aircraft once the area is clear.	Visual Observer / Spotters
Public Encroachment	Call <i>"Public"</i> and approach the member of the public asking them to follow you to safety as they are currently in an extremely dangerous situation.	Spotter
	Upon identifying an encroachment from a member of the public or hearing the call <i>"Public"</i> advise the pilot-in-command by using the relevant phrase (<i>"Public Below"</i> , <i>"Public Left"</i> or <i>"Public Right"</i>). Identify the nearest available landing site away from the encroachment and advise the Pilot-in-Command. Once the Pilot-in-Command confirms they understand, if there is no Visual Observer present dealing with the situation approach the member of the public asking them to follow you to safety as they are currently in an extremely	Visual Observer

	dangerous situation.	
	Upon being advised by the Visual Observer of a public encroachment immediately hold position and wait for further instruction. The Visual Observer will advise which the safest area to land is and confirmation should be given that the instruction has been understood. Immediately proceed to the advised landing site.	Pilot-in-Command
Aircraft Incursions	Upon identifying an imminent aircraft incursion within the 400ft AGL, or 500 feet diameter, call the relevant phrase (<i>"Aircraft Ahead"</i> , <i>"Aircraft Behind"</i> , <i>"Aircraft Left"</i> or <i>"Aircraft Right"</i>) and maintain visual contact with the approaching aircraft.	Spotter
	Upon identifying an imminent aircraft incursion within the 400ft AGL, or 500 feet diameter, or hearing the call <i>"Aircraft ..."</i> identify the approaching aircraft. Advise the pilot-in-command to take avoiding action by using the phrase <i>"Aircraft, Descend"</i> . Once the aircraft has passed by then Advise the pilot-in-command by using the phrase <i>"Aircraft Clear"</i> .	Visual Observer
	Upon being advised by the Visual Observer of an aircraft incursion immediately hold position and look beneath the aircraft to identify hazards. Descend the aircraft to around 10ft above the ground or any structure. Once the Observer advises the incursion no longer exists the planned operation may resume.	Pilot-in-Command
Fly Away Actions	Call <i>"Fly Away"</i> so that the crew understand the situation. Activate the return to home fail safe function in case communication is re-established and maintain direct visual contact with the aircraft for as long as possible. If visual contact is lost make a note of estimated altitude, speed, remaining battery endurance and heading estimated from the compass rose on the calibration platform. Once the Visual Observer confirms actual information contact the local air traffic control and local police using the contact numbers found on the on-site assessment form to advise them of the situation. If the aircraft is seen to make contact with the ground or a structure, switch off the transmitter and walk over to the crash site taking a fire extinguisher and camera. Take photographs at the crash site, contact details and statements from anyone present and recover the aircraft. Leave contact details for any property damaged as a result.	Pilot-in-Command
	Upon hearing <i>"Fly Away"</i> immediately monitor the aircraft telemetry data and make a note of the aircrafts actual heading, speed and altitude. Try to activate the return to home or land functions on the ground station. Continue to monitor the telemetry data for as long as the connection remains and advise the pilot-in-command of the actual information so that the local air traffic control can be advised by the pilot-in-command.	Visual Observer
	Upon hearing <i>"Fly Away"</i> maintain direct visual contact with the aircraft for as long as possible and advise the Pilot-in-Command of an estimated heading.	Spotter
Pilot Incapacitation	Upon feeling as though incapacitation is imminent try to activate the fail safe function and call <i>"Fail Safe"</i>	Pilot-in-Command
	Upon noticing the Pilot-In-Command has become incapacitated activate the return to home fail safe function and call <i>"Fail Safe"</i> . Ensure that the pilot-in-	Visual Observer

	command is not in any imminent danger from a returning aircraft and then ensure that the take-off site is clear of all persons as the aircraft will be returning to its initial 'power up' coordinates. Call for the emergency services if required. Once the aircraft lands and shuts down disconnect the flight battery.	
Fire (Ground Equipment)	Upon noticing fire call <i>"Fire"</i> . If the fire is a Lithium Polymer battery fire do not try to extinguish, allow the battery to burn out and then extinguish any additional fires. If the fire cannot easily be extinguished and increases in size call the emergency services.	All Crew
Fire (Aircraft in Flight)	Upon noticing an aircraft fire call <i>"Aircraft Fire"</i> and wait for instruction from the Visual Observer. Upon hearing <i>"Aircraft Fire"</i> , proceed directly as instructed by the Visual Observer to the safest available landing point. Upon landing shut down the motors.	Pilot-in-Command
	Upon identifying an aircraft fire call <i>"Aircraft Fire"</i> . Upon hearing <i>"Aircraft Fire"</i> immediately identify the nearest safe landing point and advise the Pilot-in-Command. Approach the aircraft with a fire extinguisher and continue as per the Fire (Ground Equipment) procedure	Visual Observer
	Upon identifying an aircraft fire call <i>"Aircraft Fire"</i> . Upon hearing <i>"Aircraft Fire"</i> wait for the aircraft to land and then treat the emergency as per the Fire (Ground Equipment) procedure.	Spotter / Remaining Crew

Appendix A Permission / Exemption for Aerial Work
TO COME

LEFT BLANK INTENTIONALLY

Appendix B Insurance Document

TO COME

LEFT BLANK INTENTIONALLY

Appendix C Operational Forms

CUSTOMER ENQUIRY FORM

[illegible]Page 37

Pre-Site Assessment Form

ITEM	ACTION TO COMPLETE	FINDINGS
AIRSPACE	Airspace Class? (A,C,D,E,F,G) - ATC Permission Required?	
TERRAIN	What is the Terrain? (Flat, Mountainous, Boggy)	
PROXIMITIES	Other Aircraft (Airports, Heli Pads, Model Sites)	
HAZARDS	Live Firing, High Intensity Radio Transmissions, Gas Venting	
RESTRICTIONS	Nuclear Power Stations, Prisons, High Intensity Radio	
SENSITIVITIES	Nature Reserves, Recreational Areas, Bye Laws	
PEOPLE	Local Habitation (Do we need to Letter Drop?)	
LIVESTOCK	Local Farms	
PERMISSION	Local Authority, Land Owner, Military Space	
ACCESS	Public Right of Way, Gates & Roads	
CORDON	Is a Cordon Required? (Do we need extra staff?)	
FOOTPATHS	Public Footpaths, Bridal Paths	
ALTERNATE	Alternative Operational / Take Off Sites	
RISK MITIGATION	Can the job be done at another time to avoid School times etc	
WEATHER	24 hour forecast	
NOTAMS	Any Notice to Airmen that may effect operations	

COMPLETED PRE-NOTIFICATION	If Notified, Record Date, Time & Contact Name
LOCAL AIR TRAFFIC CONTROL:	
REGIONAL AIR TRAFFIC CONTROL:	
MILITARY CONTROL:	
NOTICE TO AIRMEN:	

Call Sheet

CALL SHEET

JOB NUMBER

DATE

START TIME:	
LUNCH:	
FINISH TIME:	

WEATHER FORECAST	
WIND SPEED:	KNOTS
WIND DIRECTION:	
TEMPERATURE:	*C
HUMIDITY:	
CHANCE OF RAIN:	%
SUNRISE:	
SUNSET:	

ROLE	NAME	CONTACT NUMBER
PILOT IN COMMAND:		
OBSERVER:		
PAYLOAD OPERATOR:		
SPOTTER 1:		
SPOTTER 2:		
HELPER 1:		
HELPER 2:		
FIRST AIDER:		
ACCOUNTABLE MANAGER:		

SHOT NUMBER	DESCRIPTION OF WORK REQUIRED
SHOT 1	
SHOT 2	
SHOT 3	
SHOT 4	
SHOT 5	
SHOT 6	
SHOT 7	
SHOT 8	
SHOT 9	
SHOT 10	

NOTES:

Risk Assessment Form

RISK ASSESSMENT FORM

SITE LOCATION:		JOB NUMBER:	
FLIGHT OPERATION:		JOB DATE:	
FLIGHT TEAM:	PILOT-IN-COMMAND:	OBSERVER:	
	PAYLOAD OPERATOR:	AIRCRAFT:	

1 - HAZARD (Something with the potential to cause harm, how will it be realised and what is the potential injury?)	2 - AT RISK	3 - EXISTING CONTROL MEASURES	RISK			7 - FURTHER CONTROL MEASURES	RISK		
			4 SEVERITY	5 PROBABILITY	6 RISK		4 SEVERITY	5 PROBABILITY	6 RISK

FURTHER ACTIONS (Further control measures which could be implemented at the planning stage to improve safety)

ADDITIONAL COMMENTS (Actions identified by personnel on site, to make the operation safer)

AUTHORISED BY THE ACCOUNTABLE MANAGER	NAME (Print):	SIGNED:

AT RISK (Column 2)	SEVERITY (Column 4 and 8)	PROBABILITY (Column 5 and 9)	RISK RATING (Columns 6, 8 and 10)	
E - Employees	1 NO INJURY, PROPERTY DAMAGE	1 EXTREMELY UNLIKELY	Severity X Probability - 1 to 5	MIN Y - Acceptable Risk
C - Client	2 MINOR INJURY	2 REMOTE POSSIBILITY	Severity X Probability - 5 TO 10	LOW Y - Acceptable Risk
V - Visitors	3 REPORTABLE INJURY	3 WILL POSSIBLY OCCUR	Severity X Probability - 12 TO 15	MED ? - May need further consideration
P - Public	4 MAJOR INJURY / SINGLE FATALITY	4 WILL PROBABLY OCCUR	Severity X Probability - 16 TO 25	HIGH N - Unacceptable Risk
A - All	5 MULTIPLE FATALITIES	5 ALMOST CERTAIN		

On-Site Assessment Form

ON SITE SURVEY

JOB NUMBER:
PILOT:
OBSERVER:

DATE

WIND SPEED
KNOTS

TEMP.
°C

DIRECTION

ITEM	ACTION TO COMPLETE	FINDINGS
OBSTRUCTIONS	Masts, Power Lines, Buildings, Train Tracks, Trees, Lakes, Rivers, Canals or Industrial Hazards	
VISUAL LIMITATIONS	Anything that May Impair Vision? (Up to 5KM)	
CORDON	Is a Cordon Required? (Do we need extra staff?)	
LIVESTOCK	Any Animals or Wildlife Present Nearby?	
TERRAIN	Flat Surface, Rough, Sloped, Wet, Trees?	
PERMISSION	Do We Have the Land Owners Permission?	Signature:
PUBLIC	Public Right of Way, Footpaths, Gates	
AIR TRAFFIC	Do We Need & or Have Clearance?	
COMMUNICATION	Are Two Way Radios Required?	
PROXIMITY	Are We Far Enough Away from Buildings?	
TAKE OFF AREA	Where is the Safest Convenient Position?	
LANDING AREA	Where is the Safest Convenient Position?	
OPERATIONAL ZONE	Are there Any Hazards or Obstructions?	
EMERGENCY AREA	Where is the Safest Convenient Position?	

CONTACT NAME AND TELEPHONE NUMBERS
PILOT:
OBSERVER:
CLIENT:
LOCAL POLICE:
LOCAL HOSPITAL:
LOCAL AIR TRAFFIC CONTROL:

NOTES:

Appendix D Checklists

EMBARKATION CHECKLIST

ITEM	ACTION / CHECK	TICK
Airframe	Check Condition & Airworthiness	
Camera Mount	Check Condition & Functionality	
Flight Controller / Transmitter(s)	Check Functionality	
Calibration Platform	Check Condition	

ITEM	ACTION / CHECK	TICK
Camera(s) & Lens(s)	Check Condition & Functionality	
Camera Connection Leads	Check Condition	
Camera Memory Cards	Check Condition & Space	
Camera to Airframe Lanyard	Check Condition & Security	
Camera Attachment Bolt	Check Condition	

ITEM	ACTION / CHECK	TICK
Multi Function Battery Charger	Check Condition & Functionality	
Required Charger Leads	Check Condition	
Battery Checker	Check Functionality	

ITEM	ACTION / CHECK	TICK
Screwdrivers (Flat / Cross Drive)	Check Condition	
Allen Keys	Check Condition	
Pliers (Standard / Long Nose)	Check Condition	
Cable Ties (Various Sizes)	Check Condition & Quantity	
Side Cutters	Check Condition	
Nylock Propeller Nuts	Check Condition & Quantity	
Spare Props. (Tractor & Pusher)	Check Condition & Quantity	
Small Socket Set	Check Condition	

NOTES:

Arrival Checklist

ARRIVAL CHECKLIST

ITEM	ACTION / CHECK	TICK
SITE SURVEY	CARRY OUT SITE SURVEY WITH OBSERVER	
FLIGHT PLAN / BRIEF	CONFIRM FLIGHT PLAN & BRIEF CREW, OBSERVER & CLIENT	
CREW IDENTIFICATION BADGES	ISSUE AS REQUIRED	
HARD HAT / FLOURESCENT JACKETS	ISSUE AS REQUIRED	
TWO WAY RADIOS	ISSUE AS REQUIRED	
CORDON, SIGNS AND SAFETY TAPE	SETUP IF SURVEY FINDS REQUIREMENT	
CREW / HELPERS	POSITION AS REQUIRED TO MAINTAIN SAFE FLYING ZONE	
FIRST AID KIT	POSITION TO BE EASILY ACCESSIBLE & INFORM CREW OF LOCATION	
FIRE EXTINGUISHER	POSITION TO BE EASILY ACCESSIBLE & INFORM CREW OF LOCATION	
AIRFRAME	UNLOAD & CHECK AIRFRAME FOR ANY TRANSIT DAMAGE	
PAYLOAD	ATTATCH TO PLATFORM & FIT SAFETY LANYARD	
AUDIO VISUAL CONNECTION	INSERT A/V PLUG AND SECURE	
PROPELLERS	CHECK CONDITION (Splits, chips or cracks - Replace if Required)	
PROPELLER FIXINGS	CHECK SECURING NYLOCK NUTS FOR TIGHTNESS (Replace if Removed)	
CALIBRATION PLATFORM	POSITION AS REQUIRED & ENSURE LEVEL WITH SPIRIT LEVEL	
GROUND STATION	SETUP, SWITCH ON AND TEST OPERATION	
AUDIO VISUAL MONITOR	SETUP, SWITCH ON AND TEST OPERATION	

Note: The calibration platform displays a compass rose and should be positioned so that North is aligned correctly. This compass rose can then be consulted in the event of a fly away action to ascertain approximate heading quickly.

Pre-Flight Checklist

PRE FLIGHT CHECKLIST

ITEM	ACTION / CHECK	TICK
AIRFRAME	CHECK FOR DAMAGE, WEAR, TIGHTNESS OF FITTINGS, CONDITION AND SECURE FITMENT OF PROPELLERS AND SECURE ATTACHMENT OF CAMERA	
FLIGHT BATTERY	NOTE BATTERY NUMBER IN BATTERY LOGBOOK, RECORD PRE-FLIGHT BATTERY POWER % AND FIT INTO AIRFRAME (Flight Batteries Must Be No Lower than 90%)	
TRANSMITTER	SWITCH ON, CHECK BATTERY POWER IS AT LEAST 80%, ENSURE TRIMS ARE NEUTRAL AND ALL SWITCHES ARE IN THEIR CORRECT POSITIONS	
CAMERA	SWITCH ON AND CONFIRM CORRECT OPERATION	
AIRFRAME	ENSURE AIRCRAFT IS LEVEL ON THE CALIBRATION PLATFORM	
FLIGHT BATTERY	CALL "CLEAR PROPS" AND CONNECT FLIGHT BATTERY	
SELF DIAGNOSTIC	WAIT FOR DIAGNOSTIC TO FINISH	
AUDIO VISUAL MONITOR	CHECK FUNCTION & QUALITY OF AUDIO VISUAL LINK FROM CAMERA	
CALIBRATION GYRO	CALIBRATE GYRO	
CAMERA GIMBAL	TEST FOR CONTROL AND OPERATION AND POSITION FOR TAKE OFF (Lens parallel with ground level)	
GROUND STATION	SWITCH ON AND LOAD SOFTWARE (Once loaded select "Connect to system")	
TELEMETRY LINK	ENSURE TELEMETRY FEED IS BEING RECEIVED AND DISPLAYS ARE CONNECTED	
SATELLITE CAPTURE	MONITOR SATELLITE CAPTURE ON SCREEN UNTIL 6 SATELLITES ARE CAPTURED (3D Fix will be displayed)	
GPS POSITION FIX	CONFIRM GPS POSITION FIX	
FLIGHT PLAN	LOAD IN FLIGHT PLAN FROM GROUND STATION IF REQUIRED	
CAMERA	START RECORDING	
AIRCRAFT ALIGNMENT	REPOSITION AIRCRAFT IN TAKE OFF AREA ON LEVEL GROUND FACING INTO WIND	
CREW, PUBLIC & CLIENT	ENSURE ALL CREW, PUBLIC AND CLIENT ARE IN CORRECT SAFE POSITIONS	
CLEARANCE	DOES THIS FLIGHT OPERATION HAVE CLEARANCE FROM AIR TRAFFIC CONTROL IF REQUIRED?	
POWER UP	CALL "TAKING OFF" AND START MOTORS (Left transmitter stick to bottom right corner)	
TAKE OFF	TAKE ONE FINAL LOOKAROUND, CHECK WITH OBSERVER THAT THEY AGREE IT IS SAFE TO FLY, POWER UP AND TAKE OFF, CLIMB TO APPROXIMATELY 2 METERS	
CONTROL TEST	TEST YAW AND CYCLIC CONTROLS (Use small gentle movements and ensure aircraft reacts correctly)	
FUNCTION TEST	ENGAGE POSITION AND ALTITUDE HOLD TO TEST FUNCTION (Aircraft should hold position and altitude)	
FLIGHT BATTERY CHECK	CHECK BATTERY STATUS AND SATELLITES BEING TRACKED	
ACTIVATE PAYLOAD	CALL "Camera Free" TO ADVISE THE PAYLOAD OPERATOR THAT THE CAMERA MAY NOW BE MOVED	
OPERATION	CONFIRM WITH THE OBSERVER THAT THE PLANNED FLIGHT OPERATION IS STILL GOOD TO GO AHEAD	

Post-Flight Checklist

POST FLIGHT CHECKLIST

<i>ITEM</i>	<i>ACTION / CHECK</i>
TOUCHDOWN	UPON TOUCHDOWN STOP THE MOTORS
POWER DOWN	WALK TO AIRCRAFT, DISCONNECT FLIGHT BATTERY PACK AND CALL "Aircraft Safe"
REMOVAL	REMOVE THE AIRCRAFT FROM THE LANDING AREA
DATA RECORDING	RECORD PILOT, AIRCRAFT AND BATTERY DETAILS IN THE RELEVANT LOGBOOKS
TRANSMITTER	SWITCH OFF CONTROL TRANSMITTER
CAMERA	STOP RECORDING AND SWITCH OFF CAMERA
AIRFRAME	CHECK FOR DAMAGE, WEAR, TIGHTNESS OF FITTINGS, CONDITION AND SECURE FITMENT OF PROPELLERS AND SECURE ATTACHMENT OF CAMERA
FLIGHT BATTERY	REMOVE FLIGHT BATTERY FROM AIRCRAFT, CHECK RESIDUAL BATTERY %, RECORD DETAILS IN BATTERY LOGBOOK
MEMORY CARD	REMOVE MEMORY CARD FROM CAMERA AND BACKUP TO GROUND STATION PC
REVIEW	REVIEW IMAGES AND EVALUATE WITH CREW AND CLIENT IF REQUIRED

Appendix E Logbooks

Battery Identification Chart & Logbook

BATTERY IDENTIFICATION CHART

Battery Identification Code	Battery Identification Description	Battery Type

BATTERY CHARGE LOGBOOK

[illegible]

Maintenance Logbook

MAINTENANCE LOGBOOK

[illegible]

Pilot and Aircraft Hours Logbook

[illegible]

Incident Logbook

INCIDENT LOGBOOK

DATE	TIME	INJURIES / DAMAGE	INCIDENT DETAILS	ACTION TAKEN / INCIDENT REPORT	NOTES

FORM 6 – BASIC NATIONAL UAS CERTIFICATE

Certification Number	BNUC-S™ 1241-14-08-01
Name of BNUC-S™ Pilot	Victor Lee
Address	10614 Rogalla Drive, Charlotte, NC, 28277, USA
Telephone	+1-704-426-7835
email	victorleeassoc@mac.com

QUALIFICATION

Commander	✓	Pilot	✓
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OPERATION

VLOS	✓	E-VLOS	N/A
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COMPETENCY ASSESSED

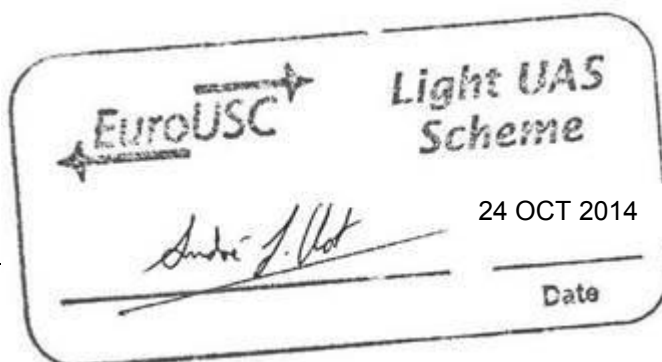
BNUC-S™ : Manual Operation (0-20kg)	✓	BNUC™ : Manual Operation (20-80kg)	N/A
BNUC-S™ : GCS Operation (0-20kg)	✓	BNUC™ : Manual Operation (80-150kg)	N/A
		BNUC™ : Ground Station Operation (20-150kg)	N/A
		BNUC™ : Water Operations (fixed-wing only)	N/A

CONDITIONS

- 1) BNUC-S™ Pilots are subject to:
 - i) any conditions in the approved Operations Manuals listed in the Schedule of Applicable Organisations.
 - ii) any NAA (National Aviation Authority) Permissions/ Exemptions or other conditions that may be communicated to them by the NAA or EuroUSC™ either by letter, email or telephone.
- 2) The BNUC-S™ Pilot must:
 - i) maintain an accurate record of each flight, recording location, take-off and landing time, duration, total pilot hours and total aircraft hours as appropriate and make these records available for inspection to EuroUSC™ on request.
 - ii) maintain a copy of all valid NAA Permission(s) and/or Exemption(s) for all aircraft systems stated in the Schedule of Applicable Aircraft Systems.

RECOGNITION

The above named individual has been assessed by EuroUSC™ as holding the Basic National UAS Certificate having demonstrated the level of competency required pursuant to this certificate.



Official Stamp

FORM 6 – BASIC NATIONAL UAS CERTIFICATE

Name of Holder: Victor Lee

Certification Number: 1241-14-08-01

SCHEDULE OF APPLICABLE ORGANISATIONS

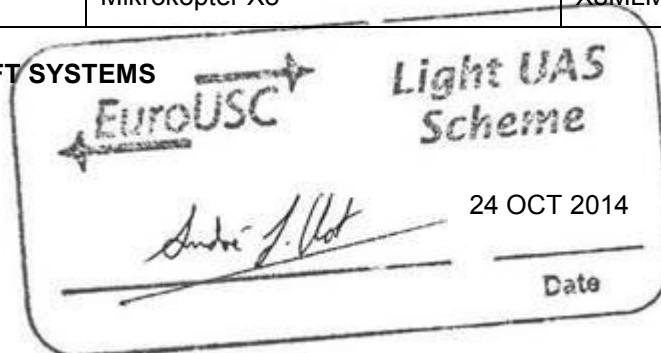
LUASS™ Registration	Organisation Name	Approved Operations Manual
C1051	Platinum Motion Media Inc.	PMM/01/01 – Issue 1.1 – 12.09.14

END OF SCHEDULE OF APPLICABLE ORGANISATIONS

SCHEDULE OF APPLICABLE AIRCRAFT SYSTEMS

LUASS™ Registration	ICAO Designator	NAA Reference	Aircraft Make and Model	Serial Number
UAV0707	G	N/A	Mikrokopter X8	X8MLMK201403

END OF SCHEDULE OF AIRCRAFT SYSTEMS



I UNITED STATES OF AMERICA XI

DEPARTMENT OF TRANSPORTATION • FEDERAL AVIATION ADMINISTRATION

IV NAME

VICTOR BYUNG GUK LEE

V ADDRESS 91 WINDING RIDGE WAY
DANBURY CT 06810-5253

VI NATIONALITY USA

IVa D.O.B. 19 OCT 1972

SEX HEIGHT WEIGHT HAIR EYES
M 68 163 BLACK BROWN

IX HAS BEEN FOUND PROPERLY QUALIFIED TO EXERCISE THE PRIVILEGES OF

II PRIVATE PILOT

III CERTIFICATE NUMBER 3843775

X DATE OF ISSUE 1 APR 2021

XIV

VIII ADMINISTRATOR



I UNITED STATES OF AMERICA XI

DEPARTMENT OF TRANSPORTATION • FEDERAL AVIATION ADMINISTRATION

IV NAME

VICTOR BYUNG GUK LEE

V ADDRESS 91 WINDING RIDGE WAY
DANBURY CT 06810-5253

VI NATIONALITY USA

IVa D.O.B. 19 OCT 1972

SEX HEIGHT WEIGHT HAIR EYES
M 68 163 BLACK BROWN

IX HAS BEEN FOUND PROPERLY QUALIFIED TO EXERCISE THE PRIVILEGES OF

II REMOTE PILOT

III CERTIFICATE NUMBER 3902396

X DATE OF ISSUE 1 APR 2021

XIV

VIII ADMINISTRATOR



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